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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/706,162

11/12/2003

Farid Nemati

C-028

7584

7590

08/20/2007

H. C. Chan

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EXAMINER

JACKSON JR, JEROME

ART UNIT

PAPER NUMBER

2815

MAIL DATE

DELIVERY MODE

08/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

a

**Supplemental  
Notice of Allowability**

Application No.

10/706,162

Applicant(s)

NEMATI ET AL.

Examiner

Jerome Jackson Jr.

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Board Decision.
2. ☒ The allowed claim(s) is/are 3-5, 7-14, 16-18, 23, 25 and 27.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|  | 9. <input type="checkbox"/> Other _____   |

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Rewrite allowed claims 23, 25 and 27 as follows:

23. A semiconductor device comprising:

a thyristor having thyristor body regions including first and second immediately adjacent base regions between first and second emitter regions;

a first control port configured and arranged to capacitively couple a first signal at least to the first base region; and

a second control port configured and arranged for receiving a second signal generated outside of the thyristor and for coupling the second signal at least to the second base region, the second signal being adapted to control holding current or forward blocking voltage of the thyristor as a function of temperature;

wherein one of the base regions includes N-doped material having a higher concentration of N<sup>+</sup> dopant in a depletion region that faces the second control port.

25. A memory device comprising:

at least one thyristor having thyristor body regions including first and second immediately adjacent base regions respectively coupled to and between first and second emitter regions;

a first control port configured and arranged to capacitively couple a first signal at least to the first base region;

a first circuit configured and arranged to detect a temperature-related failure of the thyristor to maintain its conductance state during a standby mode or to maintain its blocking state; and

a second circuit including a second control port configured and arranged for receiving a second signal generated outside of the thyristor and for coupling the second signal at least to the second base region as a function of the detected failure for controlling holding current or forward blocking voltage of the thyristor;

wherein one of the base regions includes N-doped material having a higher concentration of N<sup>+</sup> dopant in a depletion region that faces the second control port.

27. A semiconductor device comprising:

a thyristor having thyristor body regions including first and second immediately adjacent base regions between first and second emitter regions, the thyristor body being maintained in a conductance state as a function of holding current; and

a control circuit configured and arranged for applying a signal to at least one of the base regions for controlling the holding current or forward blocking voltage as a function of temperature, the signal being generated outside of the thyristor;

further comprising a second control port,

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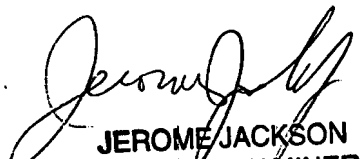
wherein one of the base regions includes N-doped material having a higher concentration of N+ dopant in a depletion region that faces the second control port.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerome Jackson Jr. whose telephone number is 571-272-1730. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jj

  
JEROME JACKSON  
PRIMARY EXAMINER